

Bright minds challenge

[PTV Group names winners of the 2015 VeRoLog Solver Challenge in Vienna](#)

Karlsruhe/Vienna, 23/07/2015. Bright minds came together at the 2015 VeRoLog Conference in Vienna in June to discuss scientific Operations Research methods and to honour the winners of this year's Solver Challenge. This competition was initiated by PTV Group and the EURO Working Group on Vehicle Routing and Logistics Optimization (VeRoLog). The aim was to solve a specific transport planning problem derived from practice. 16 teams from Europe, India, South America and Africa participated in this year's challenge. First prize was won by Professor Dr. Martin J. Geiger, University of the Federal Armed Forces in Hamburg, Head of the Department of Business Administration. In addition to the Solver trophy, the winner also received EUR 1,000 in prize money.

The VeRoLog Working Group deals with numerous transport planning and logistics optimisation issues. It consists of 1,000 members worldwide and is a part of EURO (Association of the European Operational Research Societies). The jury was chaired by Werner Heid, Director Logistics Components, PTV Group. Further members included Dr. Karl Dörner, University of Vienna and Professor Dr. Daniele Vigo, University of Bologna. The competition saw 16 teams tackle the challenge of solving a specific route planning problem related to coach tours. Like last year, the theme was suggested by PTV Group. The real-life problem that had to be solved was no standard scenario. The task was to find a solution that allows passengers to get from different stops to a central transition point for their coach trip by taking multiple restrictions into account. In short: how to pick up all passengers in the most efficient way, for both the coach operators and the passengers. The most challenging task related to the so-called Coach Trip with Shuttle Service Problems (CTSSP) was to deploy the coaches and a number of different vehicles for shuttle services as efficiently as possible in order to ensure optimum passenger pick-up. This involves complex trip structures which have not yet been modelled as part of standard approaches or which are not yet computable.

According to the 1st prize winner, Professor Geiger, many logistics planning issues have not yet been solved satisfactorily. New developments, such as the inclusion of existing road networks, a real-time solution for larger instances and the integration of complex, practically applicable restraints, would make it necessary to search for, implement and test new innovative algorithms. The task to be solved as part of the VeRoLog Solver

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Challenge reflects one of these issues.

In fact, the scientific competition was challenging for the contestants from all over the world. Professor Dr. Geiger explains: "Our contribution related to the optimisation problem proved to be successful. In addition to new data structures that are completely adjusted to the optimisation issue, we were able to present an approach which also solves major instances satisfactorily." Professor Geiger is convinced that the properly defined problem contributes significantly towards the further development of this field of research. He also thinks that it allows an active exchange between theory and practice.

Professor Dr. Daniele Vigo from the University of Bologna thanked PTV for their great support. In his summing up, 2nd prize winner Abdelghani Bekrar from France, said: "I wish to thank the PTV Group for this unique challenge."

547 words. Author's copy kindly requested!

Images



Professor Dr. Martin J. Geiger, Head of the Department of Business Administration, with a special focus on Logistics Management, Helmut-Schmidt University, University of the Federal Armed Forces in Hamburg

The picture shows the three winning teams and the jury (from left to right): Professor Dr. Karl F. Dörner, University of Vienna, Department of Business Administration, Member of the Jury, Werner Heid, Chair of the Jury, Professor Dr. Martin J. Geiger, Helmut-Schmidt University, University of the Federal Armed Forces in Hamburg, 1st prize winner Professor Dr. Daniele Vigo, University of Bologna, Member of the Jury, 2nd prize winners: Oualid Guemri and Dr. Abdelghani Bekrar, University of Valenciennes, 3rd prize winner Professor Vladimir Deineko, University of Warwick, UK



Logo of the Working Group for Operations Research

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Background information:

VeRoLog working group <http://verolog.deis.unibo.it>

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Scientific expertise is one of our strengths. We run projects in a goal-based and practice-oriented manner. Currently, we have over 600 employees worldwide crafting powerful and innovative solutions. Our head office, which is located in the technology region of Karlsruhe, Germany, has been the centre of development and innovation since the formation of our company in 1979.

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